



US008464180B1

(12) **United States Patent**
Kirkham et al.

(10) **Patent No.:** **US 8,464,180 B1**
(45) **Date of Patent:** **Jun. 11, 2013**

(54) **ORGANIZING GRAPHICAL
REPRESENTATIONS ON COMPUTING
DEVICES**

(75) Inventors: **Stephen Kirkham**, San Francisco, CA
(US); **Brandon Bilinski**, San Francisco,
CA (US)

(73) Assignee: **Google Inc.**, Mountain View, CA (US)

(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 0 days.

(21) Appl. No.: **13/525,021**

(22) Filed: **Jun. 15, 2012**

(51) **Int. Cl.**
G06F 3/048 (2006.01)

(52) **U.S. Cl.**
USPC **715/810; 715/825; 715/765**

(58) **Field of Classification Search**
USPC **715/810, 765, 825**
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

6,609,146	B1 *	8/2003	Slotznick	709/200
6,633,315	B1 *	10/2003	Sobeski et al.	715/762
7,257,777	B1	8/2007	Kanevsky et al.	
2008/0046840	A1 *	2/2008	Melton et al.	715/825
2008/0134043	A1 *	6/2008	Georgis et al.	715/733

2009/0132377	A1 *	5/2009	Thompson et al.	705/14
2009/0150807	A1 *	6/2009	George et al.	715/763
2009/0210814	A1 *	8/2009	Agrusa et al.	715/772
2011/0072492	A1 *	3/2011	Mohler et al.	726/3
2011/0126095	A1 *	5/2011	Brock et al.	715/702
2011/0321051	A1 *	12/2011	Rastogi	718/102
2012/0047509	A1 *	2/2012	Ben-Itzhak	718/103

OTHER PUBLICATIONS

CNET Reviews, Auto-sorting apps on your jailbroken iPhone. (http://reviews.cnet.com/8301-19512_7-10384810-233.html) retrieved Jun. 22, 2012.

* cited by examiner

Primary Examiner — Phenuel Salomon

(74) *Attorney, Agent, or Firm* — Fish & Richardson P.C.

(57) **ABSTRACT**

Methods, systems, and apparatus, including computer programs encoded on a computer storage medium, for identifying a current configuration of graphical representations displayed in a user interface presented by a computing device, each of the graphical representations being associated with a respective computer-executable application, determining at least one usage signal corresponding to each of the graphical representations, the usage signal reflecting user interaction with the respective associated computer-executable application, determining one or more success metrics indicative of an efficiency of the current configuration of graphical representations, generating, using an optimization technique, a modified configuration of graphical representations based on the usage signals and the one or more success metrics, and presenting, in the user interface, at least a portion of the modified configuration of graphical representations.

19 Claims, 8 Drawing Sheets

